HELIO C2

User Manual

Ultralight Folding Wheelchairs

MOTION COMPOSITES

Maintenance manual& warranty information

Dealer: This manual must be given to the user of the HELIO **C2** wheelchair before its first use.

User: Prior to using the HELIO **C2** wheelchair, carefully read this manual and keep it for future reference.

For more information about this product, its parts/accessories and the services provided, please visit :
www.motioncomposites.com

HELIO **C2**

Thank you for selecting the HELIO C2 wheelchair. Please do not hesitate to send us your feedback or questions regarding this product's reliability, safety, usability, as well as any repair/ maintenance services offered by an authorized Motion Composites dealer.

Made in Canada
with Canadian and imported parts

CE
European authorized representative :

Advena Ltd
Pure Offices
Plato Close
Warwick
CV34 6WE
United Kingdoms

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www.facebook.com/**heliowheelchair**
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Important information

If you have any questions about safety, adjustments, accessories, use, or maintenance, please contact your authorized Motion Composites dealer.

Please record the following information for future reference:

Date of purchase

Serial Number

Supplier

Address

Telephone

What a folding wheelchair should be.

Every little detail of the Helio was specifically optimized to help you go farther!
Our wheelchair lets you minimize the risk of long-term shoulder and joint injuries by alleviating the energy needed to propel. Whether you push it forward or lift it in the trunk of a car, the helio C2 gives you more freedom!

26% lighter than the competition.

The Helio changed the way we see wheelchairs thanks to outstanding performance and unrivaled lightness. We are doing it again with the C2, lowering our own trend-setting weight by 10%! Fully equipped, the Helio C2 is strikingly lighter than the competition with a 9 pounds difference.

The lowest seat-to-floor height.

The innovative frame design of the Helio C2 lets you achieve a super low 13 1/2" seat-to-floor height with a 4" caster on a standard frame.
That's the same frame that can go up to 21 1/4"!

Truly innovative armrest.

Our new composites lightweight armrest quickly converts from flip-back to single post for easier configuration. Height adjustments are just a flick away thanks to a simple trigger system. On top of this, experience safer transfers with our enhanced rubber grip finish.

Get more mileage out of your energy.

Everybody benefits from an easier to propel wheelchair. Featuring an entirely symmetrical hydroformed crossbrace, oval shaped tubes and oversized pivot axles, our unique Ultrarigid Folding System (UFS) maximizes frame rigidity and energy conservation.

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High-Modulus Carbon T700 - The lightest and most rigid material available, also renowned for its vibration dampening properties.

Rigid Unibody Frame - A unibody frame is much stronger and needs less maintenance than a standard two-part frame. It also reduces weight while maximizing propulsion efficiency.

Symmetrical Molded Crossbrace 3D - Entirely symmetrical carbon fiber crossbrace for reduced torsion and a better distribution of forces throughout the frame.

optional : **HD Kit** with **Reinforced Crossbrace 350 lbs -** Same propreties as the Symetrical Molded Crossbrace 3D with added reinforced carbon fiber gives 350 lb (159 kg) weight capacity.

Ultrarigid Folding System - Extremely precise tolerances and oversized pivot axles for best-in-class propulsion efficiency.

Forged Vertical Axleplate + - Offers the most precise rear wheel adjustability of the industry. The vertical mounting maximizes rigidity and responsiveness.

Evolve Caster Housing - Imbedded inside the frame for rock solid durability, the Evolve Caster Housing offers easy and precise infinite adjustments.

Newton Accessories - The whole range of newton accessories are designed to be light and offer improved functionalities.

Carbon Fiber : The ultimate sophistication.

We use the same high quality material used in F1 and aerospace to design and build the lightest wheelchairs on earth.

Our T700 high-modulus carbon fiber is unrivaled when it comes to strength and rigidity. This means our frame is not only ultra-light, but also exceptionally strong.

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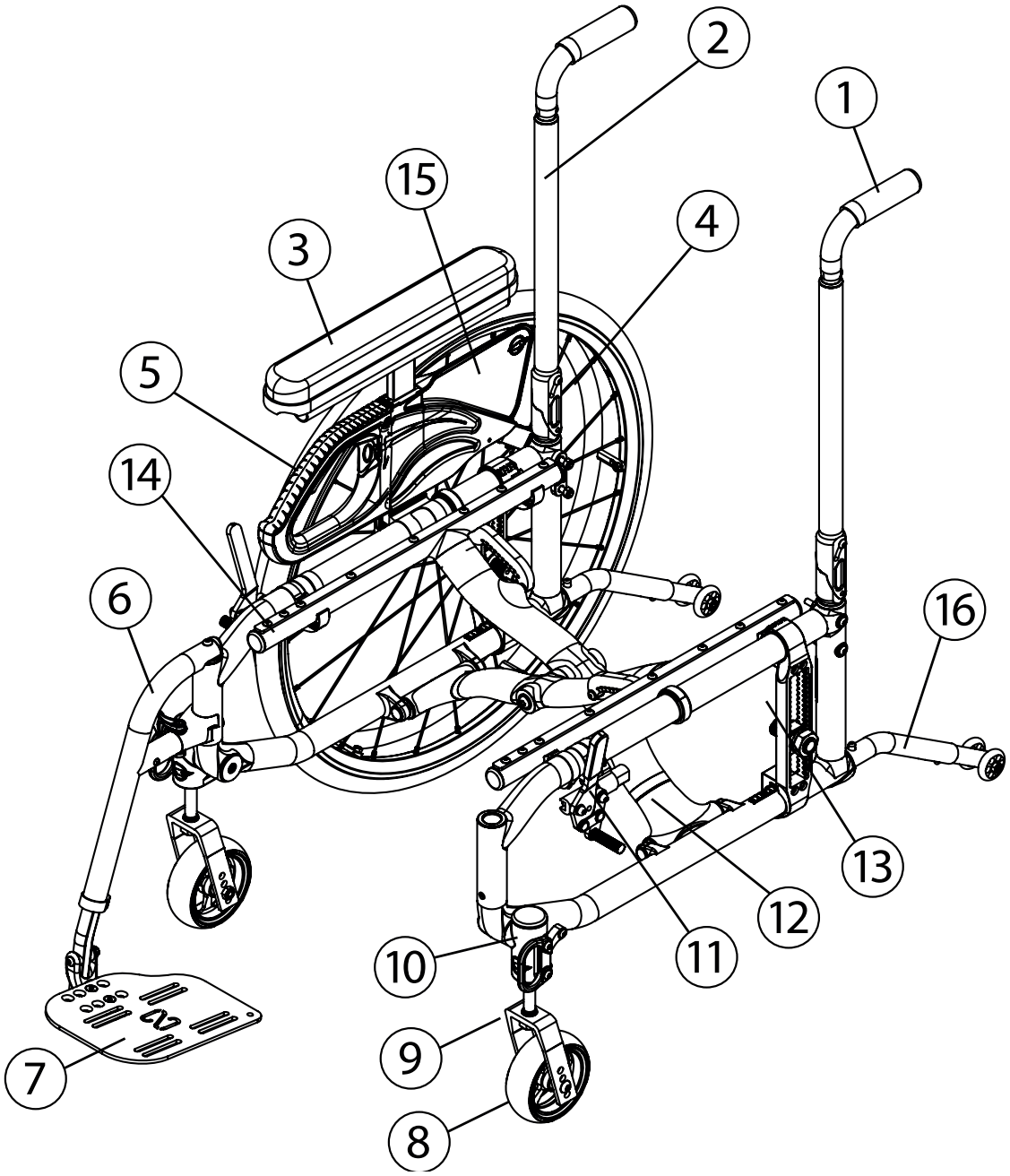
3. Product Overview

Parts List

1 Push handle
2 Back cane
3 Arm pad
4 Rear wheel
5 Seat rail
6 Front rigging
7 Footplate
8 Caster
9 Fork
10 Caster housing
11 Wheel lock
12 Crossbrace
13 Rear wheel mounting plate
14 Armrest pivot
15 Armrest



4. Before use

4.1 General Warning

Your HELIO **C2** wheelchair has been designed by professionals with proper use of aluminium in mind. DO NOT TRY TO MODIFY THE FRAME BY ANY MEANS. THE FRAME MAY BE SEVERELY DAMAGED IN THE EVENT OF DRILLING AND GRINDING, THUS VOIDING THE WARRANTY. Only use Motion Composites approved and designed clamps and accessories on your HELIO **C2** wheelchair.

4.1.1 Note to users:

Carefully read the instructions in this manual before using or servicing your wheelchair. If you have any questions or difficulties understanding the following instructions, please contact a qualified technician; you may also wish to contact a Motion Composites technician by phone or email (see contact information on previous page).

4.1.2 Note to dealers & qualified technicians

Read this manual before servicing, repairing, operating or adjusting the wheelchair. If you have any questions or difficulties understanding the following instructions, please contact a qualified technician; you may also wish to contact a Motion Composites technician by phone or email (see contact information on previous page).

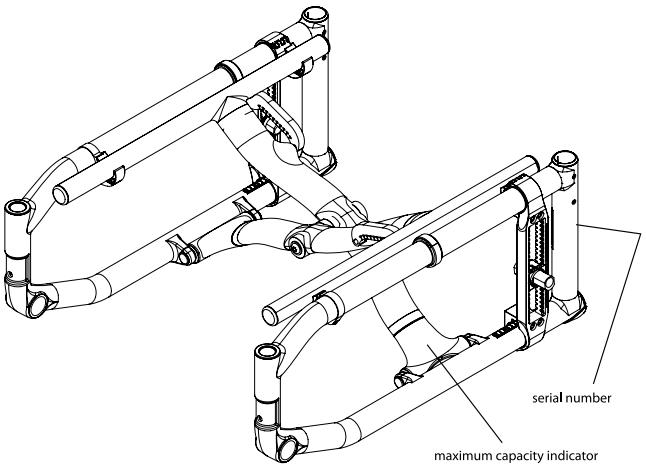
4.2 Symbols

The following symbols are used throughout this manual. Please familiarize yourself with their meaning.

The warning sign indicates important information to prevent injuries and property damage.

Useful information for the user

4.3 Label Locations



Do not remove or alter any labels on the wheelchair. If the label is damaged, replace it with a new one.

Initial setup of your HELIO C2 wheelchair must be done by a qualified technician.

The latest version of this manual can be found on our website at motioncomposites.com

Regular maintenance of your HELIO C2 will extend the life of the wheelchair. Take your wheelchair to a qualified technician every year for inspection and servicing.

Do not use air or electric tool, tightening should be done manually.

5. Technical Specifications

5.1 Structure

Frame	Folding with carbon fiber C3 cross brace
Material	Aerospace grade carbon fiber composites
Weight	12 lbs (5.3 kg) (w/o rear wheels & footrest)
Weight capacity	Helio C2: 250 lbs (113 kg) Helio C2 HD: 350 lbs (159 kg)

5.2 Dimensions

Width	14” (35.5 cm) to 20” (50.8 cm) Crossbrace CMC 3D (Helio C2) 18” (45.7 cm) to 22” (55.9 cm) Crossbrace CR350 (Helio C2 HD)
Depth	14” (35.5 cm) to 20” (50.8 cm)
Front seat-to-floor height	13” (33.0 cm) to 21¼” (53.9 cm)
Rear seat-to-floor height	12” (30.5 cm) to 20” (50.8 cm)

5.3 Adjustability

Upholstery	Tension adjustable or bolt on
Back height	9” (22.8 cm) to 21” (53.3 cm)
Adjustable angle	from 70° to 110°
Footrest	Swing in / Swing out
Camber	0°, 3°, 6°
Centre of gravity	from ½” (1.2 cm) to 4½” (10.1 cm) + amputee axle plate option

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6. Safety

6.1 Periodic Checklist

See related appendix (section 14).

6.2 Weight Limitation

The HELIO **C2** wheelchair has a weight limit of 250 lbs and the HELIO **C2 HD** is 350 lbs with the HD kit. The specified weight capacity includes: both the rider and any luggage. A user with a 10 lbs backpack, for example, should not exceed a weight of 250 lbs (113 kg) or 350 lbs (159 kg) with the HD kit. It is of utmost importance that the total weight be below the above specified capacity.
The wheelchair is designed to support only one person. Please do not stand up on the footrests.
Motion Composites is not responsible for any damages or injuries caused by the misuse of this wheelchair.

6.3 Weight Training and Sporting Activities

This wheelchair was not designed or tested as a weight training apparatus. Do not attempt to use this wheelchair in weight training. The warranty shall be void if the wheelchair has been used for any weight training purposes.
This wheelchair is not intended to be used during sporting activities.

Should you make any adjustments, repairs or do any servicing, ensure that all fasteners are tightly secured before use.

Exceeding the specified weight limit could damage the wheelchair and/or cause severe injuries.

This wheelchair was designed to be tailored to the dimensions of its owner and as such should only be used by its owner unless a qualified specialist, approved by Motion Composites, has readjusted it.

7. Tutorial

Please find many tutorial and maintenance tips on our YouTube page at : http://www.youtube.com/heliowheelchair

8. Riding your HELIO C2

Should you make any adjustments, make sure to familiarize yourself with the wheelchair movements before removing the anti-tippers.

The wheelchair should be dried with a cloth immediately after being exposed to water.

8.1.1 To reduce the risk of accident

We recommend that you review safe wheelchair use with your physician prior to using this equipment.
Take the time to read the instructions in this manual to ensure that you feel comfortable using the wheelchair without assistance.
Always be aware of hazards.
Always use anti-tippers.

8.1.2 Environmental Conditions

The HELIO **C2** was designed to be used on hard and plane surfaces like asphalt, concrete, and indoor flooring such as carpeting.

Beware that the manoeuvrability of the wheelchair is significantly affected by different outside conditions such as sand, mud, rain, snow and rough surfaces. If you use your wheelchair in these conditions, it is recommended that you have it frequently serviced.

Be careful when using your wheelchair on wet or slippery surfaces.
Exposure to water or excessive moisture can be damaging and may even cause the wheelchair to corrode over the long-term.

Do not leave your wheelchair in humid environments such as the bathroom (e.g. while taking a shower).

Do not use your wheelchair in the shower, pool, or other water situations.

8.1.3 Caregivers

- Never use removable parts (e.g. armrests, footrests) to push the wheelchair and never use lifting supports since they could cause injuries or damage.
- Ensure that the wheelchair is equipped with push handles and that its grips are securely in place.
- Turn anti-tipping devices upwards or remove them to avoid tripping.
- Should you need to leave the wheelchair user unattended, engage the wheel locks and place the anti-tipping devices back in the downward position.
- Ask an experienced caregiver to explain safe assistance methods to you.
- Ensure ongoing communication between you and the wheelchair user as to avoid any kind of confusion.
- Maintain proper posture to tilt or lift the wheelchair; keep your back straight and bend at the knees.
- Instruct the wheelchair user to lean his/her back when you are tilting the wheelchair.

8.2 Riding your wheelchair

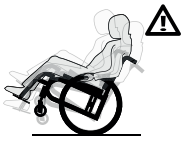
Various adjustments of your wheelchair (seat height/ depth/system, back angle, rear & front wheels camber/ size/position, position of the front riggings) could affect the center of gravity. The adjustments should be performed by a professional and the wheelchair user should be aware that the stability could be affected by these adjustments.

Do not tilt the wheelchair or perform a wheelie without assistance.

8.2.1 Balance point

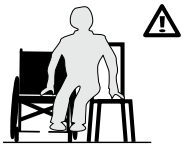
It is important to begin by learning all of the specific characteristics of your wheelchair. Ask a health professional to explain them to you. Carrying a backpack will affect the balance point of your wheelchair. Be aware of resulting handling factors in relation to your body position, posture or weight distribution. The center of gravity is affected by the angle of the wheelchair on a ramp or slope. This can be felt in forward and backward as well as side to side movements. Make sure to review the different riding techniques prior to using the wheelchair. Use anti-tippers until you are skilled at riding your wheelchair in any situation.

8.2.2 Wheelies



Wheelies involve lifting the front casters off the ground while maintaining balance on the rear wheels. Performing this manoeuver, while allowing you to easily avoid obstacles, may result in serious injuries. Consult your doctor before doing wheelies.

8.2.3 Transferring



Rotate the front casters forward to enhance stability.
Place the wheelchair as close to your transfer location as possible. Engage wheel locks. Position yourself as far back as possible when transferring weight to reduce risk of tipping forward. If you have good upper body strength, balance and agility, you may be able to perform transfers independently.
Rotate or remove footrests if at all possible as to avoid putting weight on them. If possible, make use of a transfer board.

Always ask a healthcare provider to learn safe transfer methods.

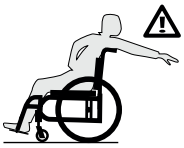
8.2.4 Getting Dressed

When dressing or undressing on the wheelchair, rotate the front casters forward and lock anti-tippers in the lower position.
If your wheelchair is not equipped with anti-tippers, back it against a wall and lock the rear wheels.

8.2.5 Reaching/Leaning/Bending

The balance point may shift when you are putting on clothes and/or reaching for objects while sitting in the wheelchair.

If at all possible, use a reaching device or ask for assistance when reaching for objects.
Move the wheelchair as close as possible to the required object.
Rotate the casters as far forward as possible from the rear wheels.

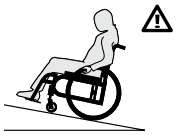


Never reach for objects between your legs, but rather position yourself to the side of these objects.
Do no shift your weight sideways, but rather rise up from the seat or move forward in the seat. Always use both hands and grab the opposite side wheel or armrest if you are capable of reaching sideways. Never reach to the rear of the wheelchair unless it is equipped with anti-tippers Never reach for objects over the seat back: reach only as far as your arm naturally extends without moving on the seat.
Do not lock the rear wheels if you are reaching backwards.
Avoid putting pressure on the footrests.

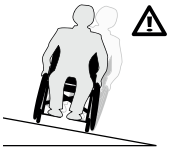
8.2.6 Moving backwards

Lock anti-tippers in lower position.
Move slowly: the wheelchair is designed to provide you with more stability when moving forward. Look around as often as possible to avoid obstacles in your path.

8.2.7 Ramps, Slopes & Side Hills



Do not ride hills with an elevation slope of more than 10% (one foot elevation change for every 10 feet).
Try to move straight up or down the slope.
Avoid turning on a downhill slope.
Stay in the center of sidewalks and ensure that there is enough space for the wheels.
Avoid stopping on slopes and never use the wheel locks to slow yourself on a downhill slope. Maintain your speed by holding the hand rims.



Do not ride on wet or slippery surfaces. Be cautious for changes in terrain height or stairs at the end of a slope (front casters may lock from simply hitting a small bump).
Ask for help should any situations arise.
Incline yourself while moving down a slope as to adjust your centre of gravity.

8.2.8 Obstacles

Always look for obstacles or road hazards (potholes, broken surfaces, etc.). Clear your own environment (work, home) of any obstacles. Never use objects (furniture, ramps, and doorknobs) to push yourself out of the wheelchair.
Lean your upper body slightly forward as you move up an obstacle. Do the reverse while moving down an obstacle. Keep both hands on the hand rims while passing over the obstacle.

8.2.9 Curbs and Steps

Remove or rotate the anti-tippers upwards to go up or down a curb or step. Move straight up and down and never angle the wheels.

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8.2.10 Moving with Assistance

Caregivers should read the "Caregiver" section of this manual.

1 - Going up a curb or step

- Place yourself behind the wheelchair.
- Go forward and tilt the wheelchair with the rear wheels by making sure that the front casters do not touch the curb or the step.
- Once the front wheels are elevated and you have passed the obstacle, put them back on the ground and continue pushing the wheelchair.

2 - Going down a curb or step

- Place yourself behind the wheelchair.
- Before reaching the edge of the curb or step, change the direction of the wheelchair by turning it around the obstacle.
- Pull the wheelchair while going down the curb or step.
- Pull the wheelchair until the rear wheels reach the edge of the curb or step; the rear wheels must slowly touch the lower level.
- Pull the wheelchair backward until the front wheels touch the edge and then lower the front back to the ground.
- Return the wheelchair to its normal driving position.

8.2.11 Stairs

Use an elevator wherever possible.
Ask for help from two people to move the wheelchair up or down stairs (the caregivers should read the "Caregiver" section of this manual).
Fasten your seat belt when being lifted in the wheelchair.

Going up or down the stairs

Tilt the wheelchair back to its tipping point.
When going up, bring the wheelchair backwards until the rear wheels touch the first step.
When going down, bring the wheelchair forward to the edge of the stairway.
Pull up or lower the wheelchair to the next step: one assistant should be behind you and the other in front of you.
Repeat the same movements for every step until you reach the end of the stairway.
Lower the front of the wheelchair to the ground once the front wheels are not touching the floor.

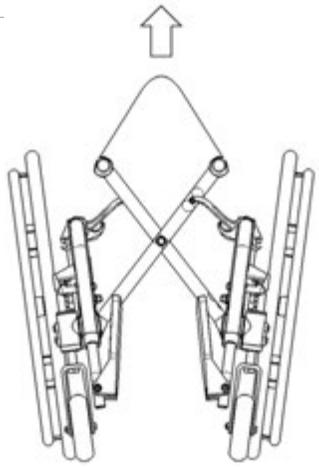
8.2.12 Escalators

Under no circumstances should this wheelchair be used on an escalator, not even with the help of an attendant. This could cause severe injuries.

9. How to use your HELIO C2

9.1 Folding & Unfolding

9.1.1 Folding



- Rotate front riggings forward until they lock.
- Flip up the footplates.
- Remove the seat cushion.
- Lift the handle on the seat upholstery.
- Pull the wheels towards each other.

9.1.2 Unfolding

When unfolding the wheelchair, be careful not to put your fingers between the pivot links, or under the seat rails. Always push or pull on the seat upholstery. Make sure the wheelchair is fully opened before transferring or sitting.

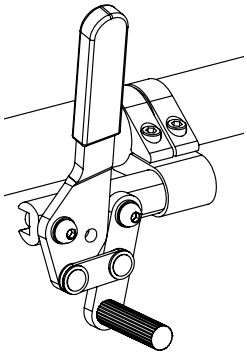
- Tilt the wheelchair towards you; make sure the opposite wheels are off the ground.
- Push the edge of the seat upholstery towards you until it closes properly.
- Press downwards on both seat rails in order to engage the lock mechanism of the wheelchair. It is necessary to push down on the middle of the seat rails to make sure that they are correctly positioned in the seat rail supports. You will feel a click between frame components.

9.2 Wheel Locks

Never use wheel locks to stop wheelchair movement. WHEEL LOCKS ARE NOT BRAKES. Make sure the surface is not slippery as the wheelchair could move even though the wheel locks are engaged.

Ensure that brake locks imbed at least 1/8" into the tire rubber when chair is in locked position.

Ensure the wheelchair is stable and locked with wheel locks.



- To engage the locks, push wheel lock handle forward (for push-to-lock type) or pull wheel lock backward (for pull-to-lock type) until the lock is fully engaged.
- To release the locks, pull wheel lock handle backward (for push-to-lock type) or push wheel lock handle forward (for pull-to-lock type) until the lock is fully disengaged.

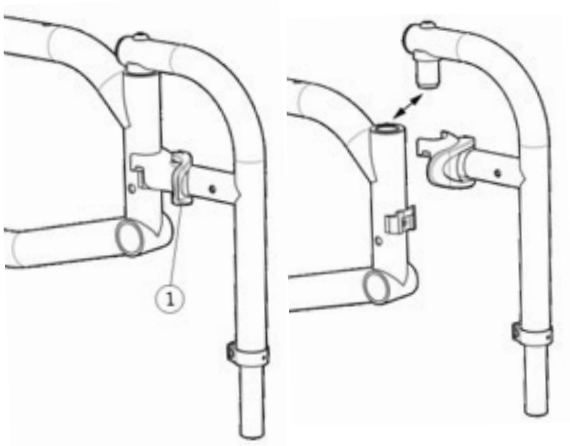
9.3 Front Riggings

9.3.1 Installing

- Insert the front rigging pivot into the wheelchair's mounting tube.
- Rotate the assembly toward the front until the mechanism locks into place.
- Repeat the same steps for the other side.

9.3.2 Uninstalling

- Push the release locking lever (1) inward or outward and maintain that position so the front riggings can rotate freely.
- Rotate front riggings outwards or inwards to disengage the locking mechanism.
- Lift the assembly up so as to disconnect it from the wheelchair's frame.
- Repeat this procedure for the other side.



9.4 Footrest

- When transferring, avoid putting weight on the footrest and be careful not to stand behind the footrest.
- Never use footplates to lift the wheelchair.
- Only use non-detachable parts to lift the wheelchair.

9.5 Armrests

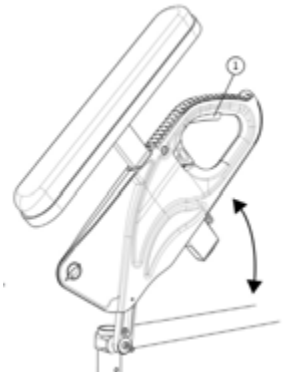
Ensure that armrests are securely locked into arm sockets and armrest release buttons are locked into place prior to using the wheelchair.

- Never lift the wheelchair by holding the armrests.
- Use only non-detachable parts for lifting.

9.5.1 Flip-back armrests

To lift the armrests:
- Pull lever (1) upwards to release the system.
- Rotate the armrest all the way up and down.

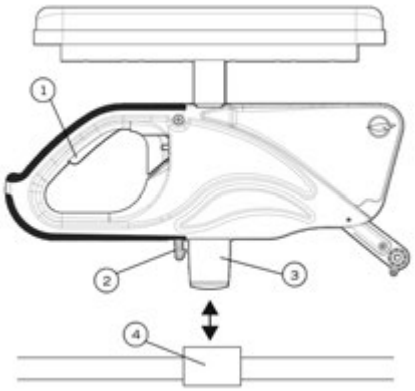
To reinstall the armrests in closed position:
- Rotate the armrests downward until the front slide plate enters in the armrest receiver and snaps into place.
- Make sure the locking lever is engaged to avoid any movement.



9.5.2 Removable T armrests

To remove the armrests:
- Pull lever (1) upwards to release the system.
- Pull the armrest all the way up.

To reinstall the armrests:
- Bring the armrests downward until the slide (3) enters in the armrest receiver (4) and snaps into place.
- Make sure locking lever (2) is engaged to avoid any movement.



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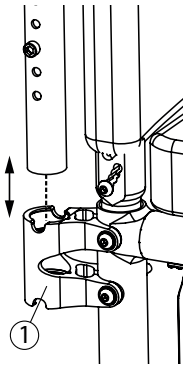
9.5.3 Swing-Away Armrests



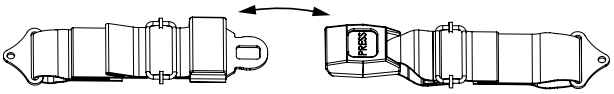
To remove the armrests from the wheelchair.
- Lift them straight up to release the armrest.
- To reinstall the armrests, insert then back in the armrest receiver (1) until they set into place.

9.6 Seat belts

Use positioning belts ONLY to help support the rider's posture. Improper use of these belts may cause severe injuries to the rider.

Make sure the rider does not slide down in the wheelchair seat. If this occurs, the rider may suffer chest compression or suffocate due to pressure from the belts.

Never use belts as a motor vehicle restraint.



- The seatbelt should be used at all times in accordance with instructions.
- There should be approximately one hand width of space between the seat belt and thigh; do not exceed this amount of space.
- Ensure that the seat belt is properly fastened as to avoid serious injuries.
- In case of emergency, ensure that seat belt can be easily unfastened.

9.6.1 Auto buckle and aircraft buckle seatbelts

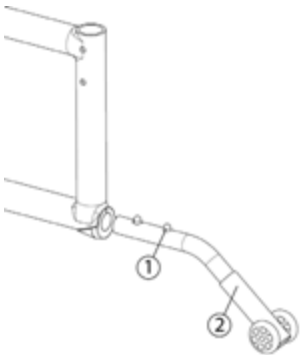
- To fasten your seatbelt, insert the clip into the buckle until it snaps.
- Make sure the belt is securely fastened.
- To unfasten your seat belt, lift the flap on the aircraft buckle seatbelt or push the button on the auto buckle seatbelt.
- To adjust your seat belt, pull each strap towards the opposite side until you get the desired tension and keep the buckle centered.

9.6.2 Velcro Belt

- To fasten your seatbelt, insert the long side of the seatbelt into the buckle on the other side.
- Apply pressure on the belt for a firm grip of the velcro.

9.7 Anti-Tipper

Motion Composites strongly recommends the use of anti-tippers

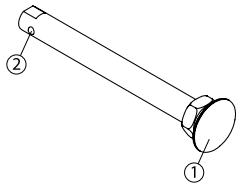


Anti-tippers were designed to prevent falls from the wheelchair.
- To remove or rotate the anti-tippers up, push the release button (1) and pull out or rotate the anti-tippers (2).
- To replace the anti-tippers, press the release button and insert them into the frame until they snap into position.
- Highest Curb Clearance : 1 1/2" to 2", depending on configuration.

9.8 Rear Wheels

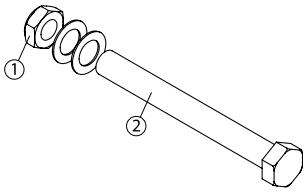
9.8.1 Quick-release axles

- To remove the rear wheels, push the button in the center of the wheel's hub and pull the wheels off (1).
- To reinstall the rear wheels on the wheelchair, push the button of the quick-release axles, insert the axle into the wheelchair axle bushing and release the button
- Always make sure that the quick release detent balls (2) extend beyond the axle bushing for a secure lock.



9.8.2 Fixed axles

- To remove the rear wheels: unscrew the bolt (1) located inside the wheelchair axle bushing and pull out the wheel.
- To reinstall the rear wheels on the wheelchair: insert the threaded axles (2) in the axle bushing.
- Tighten the bolt (1) and make sure that the wheel is still turning without any restrictions.



9.9 Seat slings

- Seat slings are not intended to be used as a seating surface. Always use a cushion.
- Ensure that the sling is in good condition (e.g. no fraying, no wear and no tears).

10. Adjustments and maintenance of your HELIO C2

10.1 Service

Refer to your dealer for service. A complete and updated list of service providers can be found on our website.

10.2 Replacement Parts

Ordering information:
Consult our website to download the parts manual and view ordering information.

Please contact us at:

Motion Composites Inc.
519 J-Oswald Forest, suite 101
Saint-Roch-de-l'Achigan, Quebec
J0K 3H0 Canada
Phone: 1-866-650-6555
Fax: (450) 588-0200
support@motioncomposites.com
www.motioncomposites.com

10.3 Tools needed

The **HELIO C2** was designed to be serviced with **regular tools. All screws and bolts are standard and can be adjusted with a wrench, socket wrench, or Allen key. Do not use air or electric tool, tightening should be done manually.**

10.4 General maintenance

10.4.1 Tire pressure

- Check tire pressure with a tire gauge.
- Inflate if pressure is below recommended amount as labelled on the sidewall.
- Do not inflate tire over recommended pressure.
- Over inflation could result in tire failure and injury.
- Under inflation could result in a flat tire.

		Max pressure
Pneumatic	1 3/8"	65 psi
Pneumatic HP	1 3/8"	110 psi
Pneumatic HP	1"	145 psi
Pneumatic HP Plus	1"	145 psi

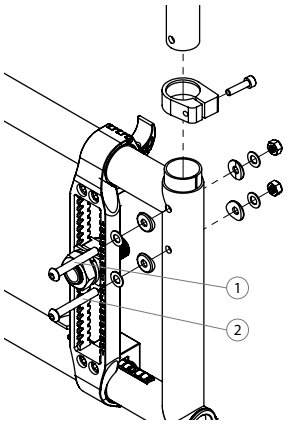
10.4.2 Cleaning your wheelchair

- Use a soft clean cloth with soap and water to clean your wheelchair.
- Rinse and dry the wheelchair adequately.
- Do not use abrasive cleaners.
- Do not use a pressure cleaner.

10.5 Backrest

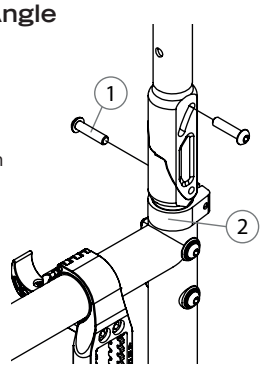
10.5.1 Removing/Installing the Back Canes

- Loosen the top bolts (1) and (2), which are also used to support the armrest socket (Swing Away and Flip Back armrest up).
- Slide the back post to remove it from the tube.
- Reinstall the back post in the reverse order and tighten screws snugly.
- Tighten bolts (1) and (2) firmly.
- Wheelchairs equipped with Flip Back armrests; tighten screw (1) while paying special attention to the force needed to flip back the armrest.



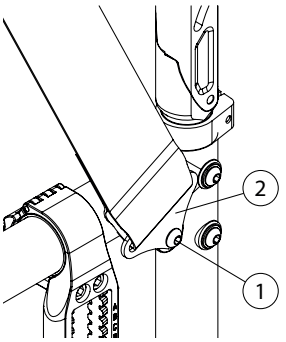
10.5.2 Adjusting the Back Angle

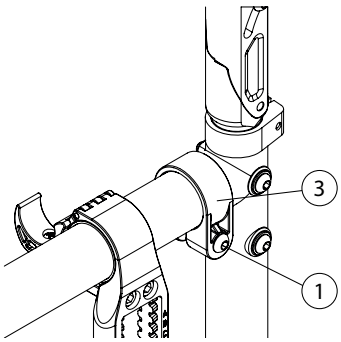
- Loosen screw (1) and remove screw (2) from the levelling device.
- Adjust to desired angle by sliding the mechanism.
- Reinstall screw (2) and tighten both screws to fit snugly.



10.5.3 Removing/Installing the seat belt

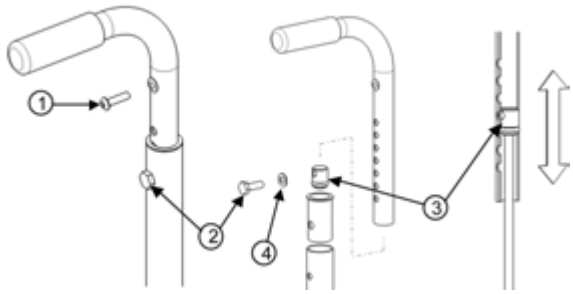
- Remove Screw (1) in order to remove the seat belt clamp (2) that is attached to the belt
- Reinstall screw (1) directly on the frame clamp (3)
- Tighten screw (1) until it is properly tightened.
- Repeat the same steps on the other side





10.5.4 Adjusting the Backrest Height

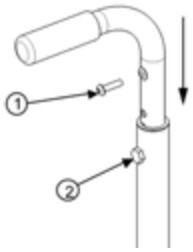
- Loosen the screw (1) that holds the back upholstery.
- Pull backrest upholstery down several centimetres in order to access screw (2) that holds the push handle.
- Remove screw (2) and the backrest handle.
- To adjust the backrest height, with the help of a threaded rod (¼"-20), move the dowel nut (3), which is located inside the handle.
- Once this step is completed, use screw (2) to hold the dowel nut (3) while removing the threaded rod.
- Remove screw (2) and reinstall backrest handle.
- Align screw (2) with the mounting hole.
- Reinstall and tighten screw (2) and the washer.
- Repeat the same steps on the other side.
- Reinstall the backrest upholstery with screw (1) and tighten to fit snugly.



Seat

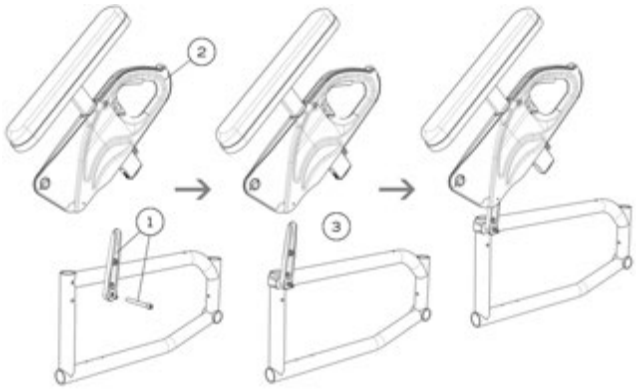
10.5.5 Installing/Removing Standard Seat Upholstery

- Remove screw (1) that holds the back upholstery.
- Pull backrest upholstery down several centimetres to gain access to screw (2), which holds the push handle.
- Remove screw (2) and then remove the backrest handle.
- Remove or install back upholstery.
- Once, the new back upholstery is installed, reinstall the handles by aligning them with the mounting holes.
- Reinstall and tighten screw (2) firmly.
- Install back upholstery at and fix it firmly with screw (1) on each back cane.



10.6 Armrest

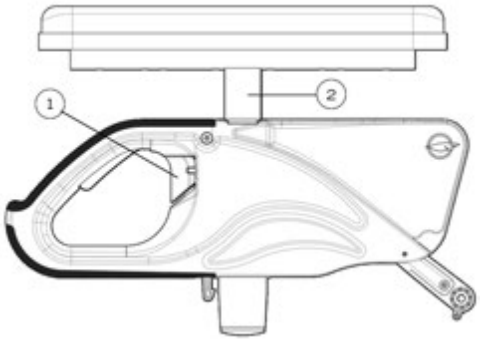
10.6.1 Installing Flip-back Armrests



- Insert the flip-back pivot (1, 2) (Fig. 14a) and screw it in place, making sure it stays in place but can rotate easily.
- Insert the armrest (Fig. 14b) on the flipback pivot than rotate it until it clicks with the armrest receiver (Fig. 14c) (for clamp installation, see 10.6.3 installing removable T-armrests).

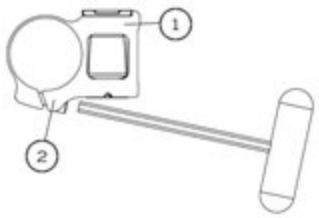
10.6.2 Adjusting the height of Flip-back armrests

- Flip lever (1) left or right to unlock the armrest.
- To adjust height, slide the upper part of the armrest into the lower part.
- Adjust the structure (2) at the desired height.
- Flip the lever back to the closed position.
- Make sure the armrest clicks in place for complete securement.



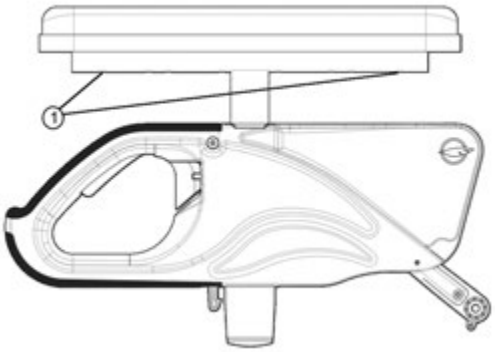
10.6.3 Installing removable T-armrests and rigid sideguard

- Install armrest receiver (1) (Fig. 19) on the upper tube of the frame at a distance of 160mm (6 1/4") from the rear tube of the frame.
- Slightly tighten screws (2) to allow the clamp to rotate.
- Insert armrest or sideguard into receiver (1).
- Rotate receiver (1) until the sideguard is perpendicular to the seat.
- Tighten screws (2) firmly.



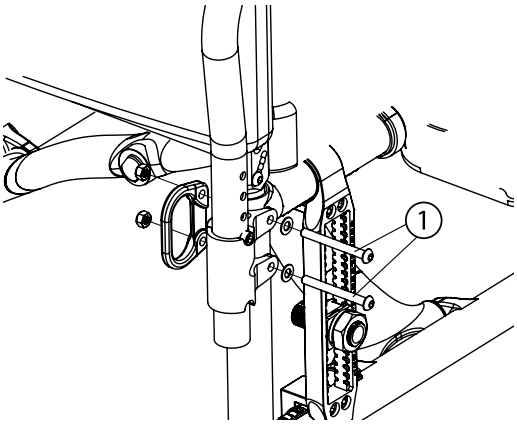
10.6.4 Replacing Armrest Pad

- Remove screws (1) located under pad (through the tube).
- Replace with new armrest pad.
- Reinstall screws (1) and tighten firmly.



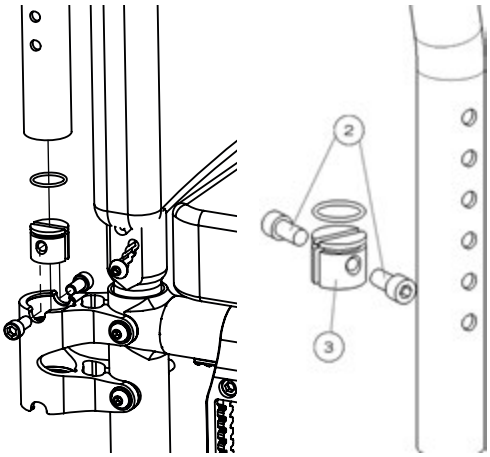
10.6.5 Installing the Swing-away Armrest receiver

- Remove the two bolts (1).
- Align the armrest receiver with the mounting holes of the frame and of the transit securement anchor.
- Reinstall the bolts and tighten firmly.



10.6.6 Adjusting Swing-away Armrest height

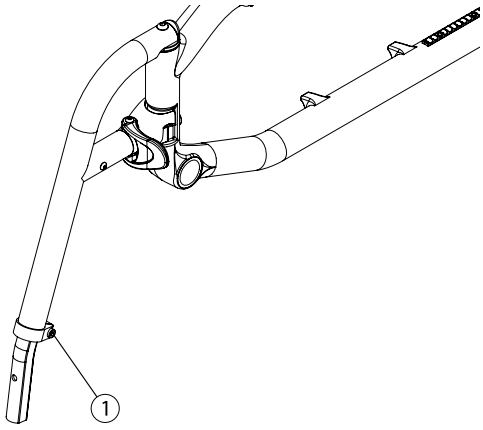
- Pull the armrest out of the receiver (1).
- Remove screws (2).
- Inside the armrest tube, slide the dowel nut with a long flat screwdriver at the desired height (3)
- Reinstall screws (2).
- Reinsert armrest in receiver.



10.7 Front riggings

10.7.1 Adjusting Footrest length

- Loosen screw (1).
- Slide the extension tube inside the front rigging at the desired length.
- Tighten screw (1) firmly.



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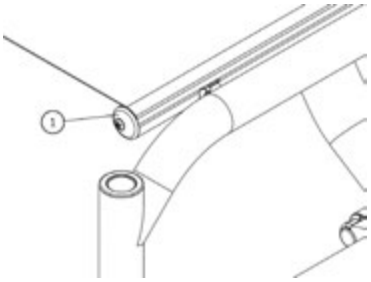
10.8 Seat

It may be difficult to unfold the wheelchair if the seat upholstery has been installed too tight.

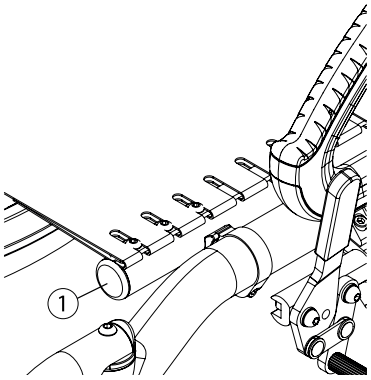
10.8.1 Replacing Seat Upholstery

SLIDED SLING



- Remove end cap (1).
- Slide in new seat upholstery.
- Reinstall end cap (1)
- Adjust tension with the velcro located under the seat upholstery.
- Fully open the wheelchair and make sure the upholstery is tight. The seat rails must be snapping easily in the seat rail supports.

SCREWED SLING



- Remove end cap (1).
- Slide in new seat upholstery.
- Reinstall end cap (1)
- Adjust tension with the velcro located under the seat upholstery.
- Fully open the wheelchair and make sure the upholstery is tight. The seat rails must be snapping easily in the seat rail supports.
- Firmly tighten all screws on the seat rails.

10.9 Seat-to-floor height

Any modification to the seat-to-floor height involves adjustment of anti-tippers, front caster angle, and rear wheel toe-in/toe-out if equipped with 3° or 6° camber. It is important to do these adjustments before using the wheelchair as to reduce risk of injuries.

10.9.1 Changing the Front Seat-to-Floor Height

To change the front seat-to-floor height, you can do one of the following:
- Install the front caster in a different hole on the fork
- Install different caster size.
- Change the stem bold length (Standard, +1" and +2" available)

10.9.2 Changing Rear Seat-to-Floor Height

To change the rear seat-to-floor height, you do one of the following:
- Install the rear wheel axle bushing in a different position along the mounting plate.
- Install different sized rear wheels.

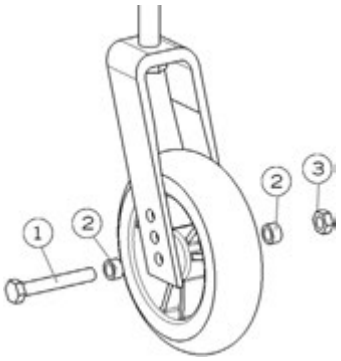
10.9.3 Changing Front & Rear Seat-to-Floor Height

To change the front and rear seat-to-floor height simultaneously, you can:
- Use another seat cushion with a different thickness.

10.10 Front casters, forks and fork stem assemblies

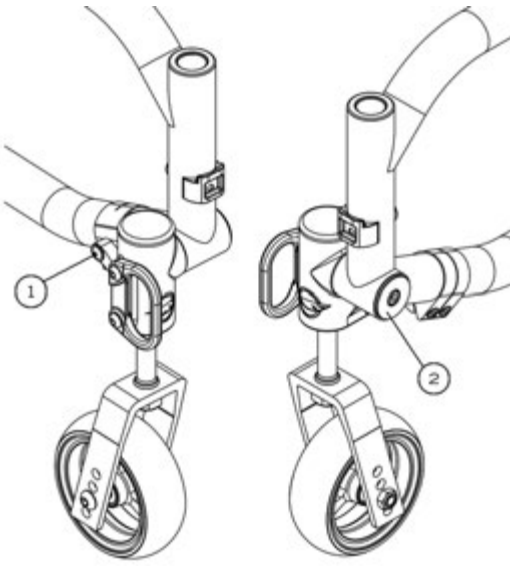
10.10.1 Removing/Installing/Repositioning the Front Wheels

- Loosen nut (3) and remove bolt (1) (Fig. 27).
- Remove, install or reposition the front castor.
- Place spacers (2) between the castor and the fork.
- Tighten nut (3) firmly.



10.10.2 Removing/Installing the caster housing

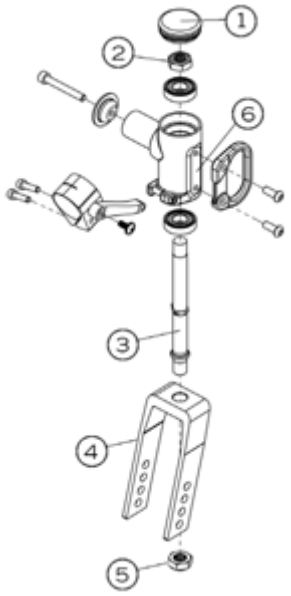
- Remove screw (1).
- Remove screw (2).
- Slide the caster housing out of the frame.



*To change the stem bolt or to service the bearings, always remove the caster housing from the frame

10.10.3 Removing/Installing the stem bolt assembly

Transit securement points are to remain in their original positions. Transit securement points are only designed to be used in their original position facing forward. Do not rotate transit securement points inward.



To remove the stem bolt:

- Remove the caster housing from the frame.
- Remove plastic cap (1)
- Loosen lock nut (2) while holding the stem bolt (3) from the bottom to prevent the fork from turning.
- The castor wheel will usually need to be removed to take out stem bolt (3).
- Remove the fork and perform maintenance if necessary.
- Refer to the diagram to make sure all hardware are installed in the right order.

To install the stem bolt:

- Insert the stem bolt (3) into the fork (4) and tighten the lower lock nut (5) while holding the stem bolt from the bottom to prevent the fork from turning.
- Insert the assembled stem bolt with fork through the caster housing (6)
- Tighten the upper lock nut (2) while holding the stem bolt (3) from the bottom to prevent the fork from turning.
- Replace the plastic cap (1).
- Replace the caster housing into the frame.

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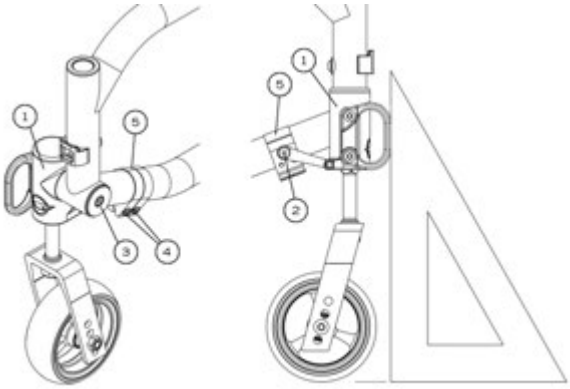
10.10.4 Adjusting the castor housing angle

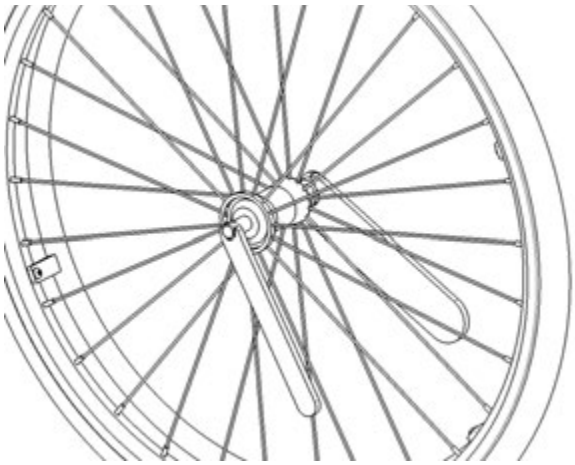
- All four wheels should be touching the floor.
- Use a set square and place it on the ground and along the caster housing.
- The housing should be parallel to the set square.
- If the housing is not parallel to the set square, remove the screws (4) and loosen the pivot bolt (3).
- Rotate the caster housing to adjust the angle while sliding clamp (5) on the frame.
- Tighten screw (3). This will hold the caster housing position.
- Check again that the caster housing is perpendicular to the ground using the set square.
- Reinstall the two screws (4) in the clamp (5).
- Tighten screws (4) to a snug fit.
- Final tightening should be done manually.



10.11 Rear wheels

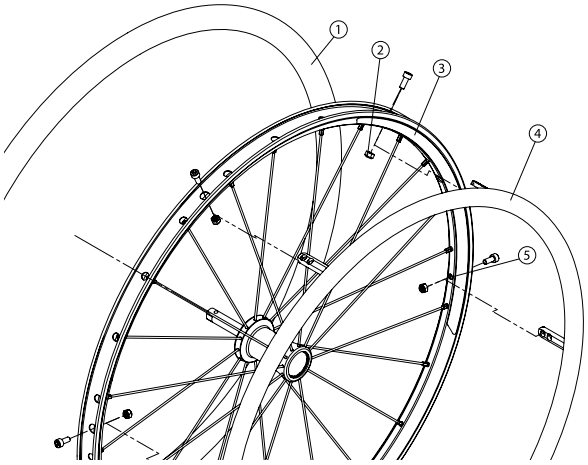
10.11.1 Adjusting Quick-Release Axles

- Remove the rear wheel from the wheelchair.
- Behind the quick release button, there is a nut that adjust the length of the axle.
- Hold the axle with a wrench at the other end (near the detent balls) (Fig. 33) and turn the nut behind the quick release button to change the length of the axle.
- Reinstall the quick release into the axle bushing on the wheelchair
- Quick release detent balls should extend beyond the axle bushing for a secure lock.



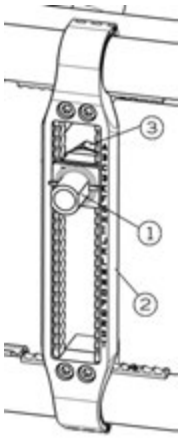
10.11.2 Replacing/Adjusting hand rims

- Use a plastic tire removal tool to take off the tire (1) (Fig. 34).
- Remove all nuts (2) inside the rim (3).
- Replace the handrim (4) with a new one and align the mounting holes (5).
- Reinstall and tighten the nuts firmly.
- Reinstall the tire on the rim.



10.11.3 Adjusting the rear axle height

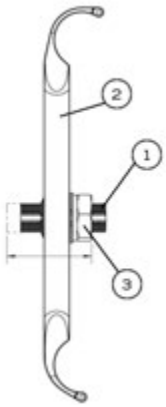
- Loosen the nut holding the axle bushing. (3)
- Move axle bushing (1) along mounting plate (2).
- Reinstall the bushing in the desired mounting hole and tighten nut (3).



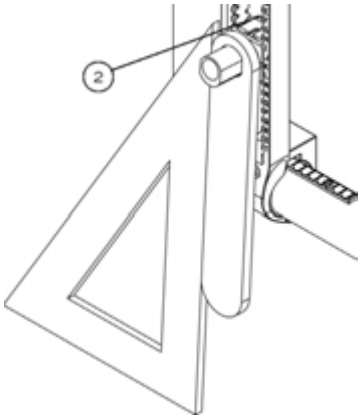
10.11.4 Adjusting rear wheel spacing

The rear wheels can be adjusted laterally by repositioning axle bushing (1) on mounting plate (2).

- Loosen nuts (3) on the axle bushing (1).
- Turn the bushing (1) in the desired direction to adjust the spacing.
- Firmly tighten the nuts (3).



10.11.5 Adjusting the toe-in/toe-out with rear wheel camber.

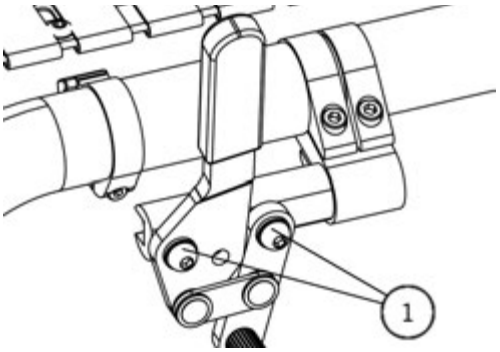


- Remove the rear wheels.
- Maintain the wheelchair on a horizontal plane with the support of the three other wheels.
- Loosen nuts (2) while keeping a bit of tension.
- Put the camber adjustment tool on the axle bushing
- Use a set square and rotate the axle bushing so that the tool is parallel to the set square (and perpendicular to the ground)
- With one hand, hold the tool and the mounting plate together to keep the setting.
- With the other hand, use a ratchet to tighten firmly the nut (2) facing inside the wheelchair.

10.12 Wheel Locks

10.12.1 Replacing/Adjusting the Wheel Locks

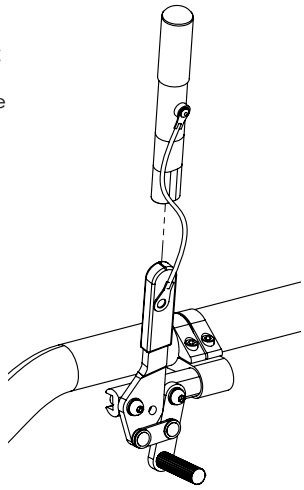
- Loosen screws (1).
- Slide the lock to the desired position.
- Tighten screws (1) to a snug fit. Final tightening should be done manually.
- Once engaged, the lock should embed 3 mm into the tire.



10.13 Extension brakes

10.13.1 Replacing/Adjusting the brake extension

- Loosen screw (1).
- Align eyelet (2) with the mounting hole.
- Re-tighten screw (1) on the brake lever.

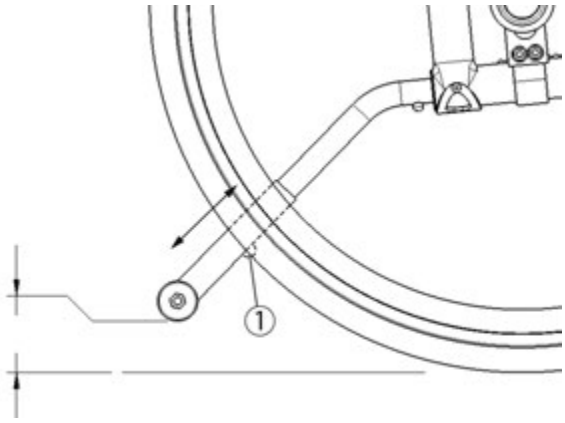


10.14 Anti-tippers

10.14.1 Adjusting the Height of the Anti-tippers

The anti-tippers should be between 1½ and 2 ¾ inches (40 to 70 mm) off the ground. Improper spacing may result in wheelchair hang ups over obstacles or not preventing the wheelchair from tipping.

- Press the push-button and slide anti-tippers extensions to desired length.
- Ensure the button snaps back into place.



If you are unable to adjust the anti-tippers to the proper height, contact your Motion Composites dealer to replace your anti-tipper for another size.

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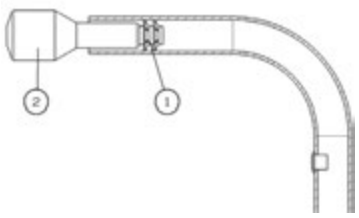
10.15. Headrest Kit and Headrest Support

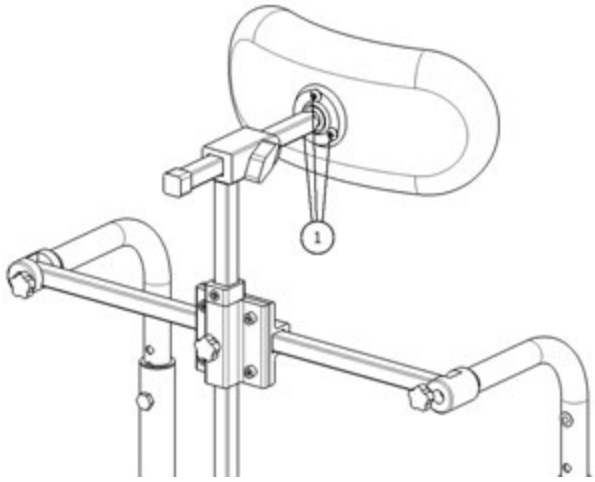
10.15.1 Installing a headrest support

- Cut the end of the push-handle with a knife in order to be able to see the inside of the push handle.
- Insert a 1/4"-20 grip nut (1) with the grip nut insertion tool (2) inside the handle (40 mm).
- Install fastening device of the headrest support by tightening it in the 1/4"-20 roll pin.



10.15.2 Installing Headrest Kit

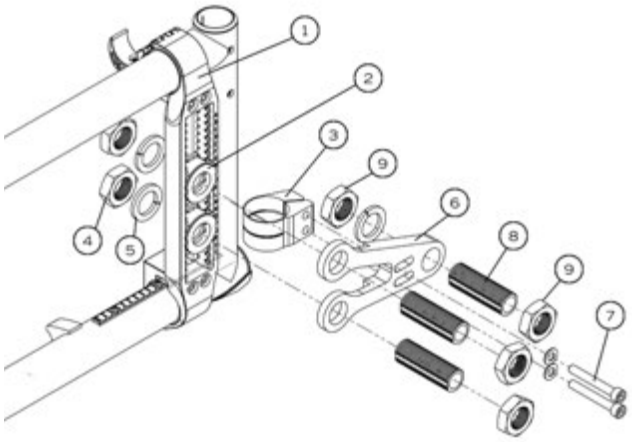
- Once the headrest support is installed, insert the adjustable headrest into the horizontal receiver.
- Install headrest on the ball pivot and tighten the three screws (1).
- Once the adjustment is completed, firmly tighten all parts.



11.16 Amputee extention plate

10.16.1 Installing an amputee plate

- Install mounting plate (1) (Fig. 43) by closing the clamps around the frame.
- Insert a second axle receiver (2) on the axle plate
- Install the back clamp (3) onto the rear of the frame.
- Insert two axle bushing (8) through axle plate (6) and in the two axle receiver (2) and secure with bolt and washer (4)(5).
- Insert two screws (7) into amputee axle plate through the mounting clamp and tighten.
- Insert axle bushing (8) through the amputee plate and tighten nuts (9).



11 Using a paratransit service

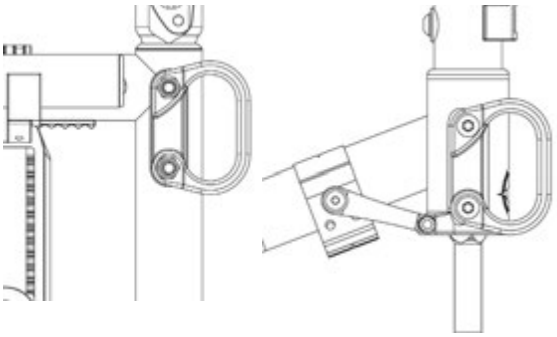
11.1 About paratransit vehicles

It is recommended that wheelchair occupants remain seated with seatbelt fastened while traveling in a vehicle designed to transport passengers in wheelchairs. Ensure that your wheelchair is securely fastened in the wheelchair restraints: restraints used should be approved and meet the safety requirements in effect.

The wheelchair seatbelt should never been used as a safety belt when you are sitting in a paratransit vehicle.

11.2 Wheelchair restraints in paratransit vehicles

Always use proper restraints to secure your HELIO **C2** wheelchair in a motor vehicle. The restraints are identified by the following symbol:



Never hook the transport tie-downs directly to the wheelchair frame. This may damage the frame and void the warranty. To avoid risk of injuries, remove all objects or accessories from the wheelchair and store them securely in the paratransit vehicle.

12 Motion Composites limited warranty

A. Frame – 5 years

Motion Composites warrants the wheelchair frame and cross braces against defects in materials and workmanship for five years from the date of purchase.

B. Components – one year

Motion Composites warrants all Motion Composites-made components against defects in materials and workmanship for one (1) year from the date of purchase, except for parts listed below.

C. Limitations and exclusions

1 **Motion Composites covers the following items for 30 days:**

- tires and tubes for front or rear wheels, upholstery (including cushions, seat slings, armrest upholstery) and push-handle grips;

2 **This warranty does not cover:**

- damage arising from normal wear and tear or from other circumstances beyond Motion Composites' control; or

3 **The foregoing warranty shall not apply if:**

- the original Motion Composites serial number tag has been removed, altered or defaced; or
- the wheelchair has been subjected to negligence, accident, improper maintenance, storage or operation as required by your Motion Composites Owners Manual, commercial or institutional use, misuse or abuse, including, but not limited to, exceeding the maximum weight capacity of 250 pounds (113,4 kg), or 350 pounds (159 kg) if equiped with HD Kit; or
- the wheelchair has been damaged by improper repairs or repairs made to any component without the express written consent of Motion Composites; or
- the wheelchair has been modified without Motion Composites' express written consent, including, but not limited to, modification through the use of unauthorized parts or attachments; or
- the wheelchair has been used as a weight training apparatus; or
- the wheelchair's Transit Tie-Down System (TTDS) has been misused; if TTDS is not attached to the four tarpaulin bows identified and installed by Motion Composites.

4 This warranty is extended only to the original consumer purchasers of Motion Composites' product.

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D. Our responsibility

Motion Composites' sole obligation and your exclusive remedy under this warranty shall be limited to such repair and/or replacement.

E. Warranty Service

If your wheelchair requires warranty service, please contact an authorized Motion Composites Dealer in Canada or an authorized international distributor. In the event of a defect in material or workmanship, the Dealer or Distributor must obtain a return authorization (RA) number from Motion Composites. Motion Composites issues RA numbers only to authorized Motion Composites Dealers and Distributors. In the event that you do not receive satisfactory warranty service, please write directly to Motion Composites Customer Service at 519 J-Oswald Forest, suite 101, Saint-Roch-de-l'Achigan, Qc, J0K 3H0 or send an email at: service@motioncomposites.com. Do not return products to our factory without our prior consent.

CONSUMER NOTICE

1. The foregoing warranty is exclusive, and in lieu of all other express warranties, whether written or oral, express or implied. Motion Composites shall not be liable for any consequential or incidental damages whatsoever. By registering your Motion Composites wheelchair, you will be deemed to agree with all provisions of this warranty.
2. It is forbidden to alter or extend the foregoing express warranty or to waive any of the limitations or exclusions.

13 Notes

14 Safety Inspection Checklist

At every use

Make sure wheelchair rolls easily and straight.

Check for vibrations, noise or any deviation from normal functioning.

Ensure wheel locks are working properly.

Ensure that front stem is perpendicular to floor.

Visually inspect tires (front & rear) for debris, low pressure, flat spots or wear.

Make sure anti-tipper tubes are locked in place (if equipped).

Visually inspect fabric for protruding metal, rips or tears.

Ensure that hand grips are not loose (if equipped).

Check hand rims for rough edges and make sure they are free from grease or other contaminants.

Checks for component interference.

Check for irregular noise and rattles.

Weekly

Check tire pressure with a tire gauge

Check seat tension.

Monthly

Check wheel alignment.

Check for free running of fork bearings.

Yearly

Have a complete inspection
performed by a qualified technician.

15 Particular damages

15.1 Damages requiring service by a qualified service agent

If any of the following conditions are observed, the wheelchair must be serviced by a qualified service agent:

- Any wheel adjustment;
- Any defective ball bearings of the forks;
- Any defective ball bearings of the front wheels;

15.2 Special damages that require the return of the wheelchair to the manufacturer

If any of the following conditions are observed, always contact your service agent prior to sending your wheelchair for repairs at Motion Composites.

- Part of the frame or cross brace is cracked;
- The thread of a riv nut is damaged;
- Part of the frame or cross brace is broken;
- Cross brace becomes worn;
- Problems continue to be identified after several adjustments or repairs have been made by a qualified service agent.

Tools

Allen keys:
2,5 mm
3 mm
4 mm
5 mm

Keys:
10 mm
11 mm
1/2" (13 mm)

For Quick Release:
7/16" (11 mm)
3/4" (19 mm)
1" 1/16 (27 mm)

Other:
Wrench
Phillips screwdriver

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I. Appendix

I.I TABLE "FRONT SEAT-TO-FLOOR HEIGHTS"

	3" caster			4" caster			5" caster			6" caster			7" caster			8" caster		
INCH	Stem bolt length			Stem bolt length			Stem bolt length			Stem bolt length			Stem bolt length			Stem bolt length		
Forks	STD	+1"	+2"	STD	+1"	+2"	STD	+1"	+2"	STD	+1"	+2"	STD	+1"	+2"	STD	+1"	+2"
4" P1	13	14	15	13 1/2"	14 1/2"	15 1/2"												
P2	13 1/2"	14 1/2"	15 1/2"	14	15	16	14 1/2"	15 1/2"	16 1/2"									
5" P1																		
P2	13 3/4"	14 3/4"	15 3/4"	14 3/4"	15 3/4"	16 3/4"	14 3/4"	15 3/4"	16 3/4"									
P3	14 1/4"	15 1/4"	16 1/4"	14 3/4"	15 3/4"	16 3/4"	15 1/4"	16 1/4"	171/4"	15 3/4"	16 3/4"	17 3/4"						
P4	14 3/4"	15 3/4"	16 3/4"	15 1/4"	16 1/4"	17 1/4"	15 3/4"	16 3/4"	17 3/4"	16 1/4"	17 1/4"	18 1/4"	16 3/4"	17 3/4"	18 3/4"			
7" P1										16 1/4"	17 1/4"	18 1/4"	16 3/4"	17 3/4"	18 3/4"			
P2							16 1/4"	17 1/4"	18 1/4"	16 3/4"	17 3/4"	18 3/4"	17 1/4"	18 1/4"	19 1/4"			
P3							16 3/4"	17 3/4"	18 3/4"	17 1/4"	18 1/4"	19 1/4"	17 3/4"	18 3/4"	19 3/4"	18 1/4"	19 1/4"	20 1/4"
P4				16 3/4"	17 3/4"	18 3/4"	17 1/4"	18 1/4"	19 1/4"	17 3/4"	18 3/4"	19 3/4"	18 1/4"	19 1/4"	20 1/4"	18 3/4"	19 3/4"	20 3/4"
P5	16 3/4"	17 3/4"	18 3/4"	17 1/4"	18 1/4"	19 1/4"	173/4"	18 3/4"	19 3/4"	18 1/4"	19 1/4"	20 1/4"	18 3/4"	19 3/4"	20 3/4"	19 1/4"	20 1/4"	21 1/4"

	3" caster			4" caster			5" caster			6" caster			7" caster			8" caster		
CM	Stem bolt length			Stem bolt length			Stem bolt length			Stem bolt length			Stem bolt length			Stem bolt length		
Forks	STD	+1"	+2"	STD	+1"	+2"	STD	+1"	+2"	STD	+1"	+2"	STD	+1"	+2"	STD	+1"	+2"
4" P1	33,0	35,6	38,1	34,3	36,8	39,4												
P2	34,3	36,8	39,4	35,6	38,1	40,6	36,8	39,4	41,9									
5" P1																		
P2	34,9	37,5	40,0	37,5	40,0	42,5	37,5	40,0	42,5									
P3	36,2	38,7	41,3	37,5	40,0	42,5	38,7	41,3	43,8	40,0	42,5	45,1						
P4	37,5	40,0	40,0	38,7	41,3	43,8	40,0	42,5	45,1	41,3	43,8	46,4	42,5	45,1	47,6			
7" P1										41,3	43,8	46,4	42,5	45,1	47,6			
P2							41,3	43,8	46,4	42,5	45,1	47,6	43,8	46,4	48,9			
P3							42,5	45,1	47,6	43,8	46,4	48,9	45,1	45,1	50,2	46,4	48,9	51,4
P4				42,5	45,1	47,6	43,8	46,4	48,9	43,2	47,6	50,2	46,4	48,9	51,4	47,6	50,2	52,7
P5	42,5	45,1	47,6	43,8	46,4	48,9	45,1	47,6	50,2	46,4	48,9	51,4	47,6	50,2	52,7	48,9	51,4	54,0

I.II TABLE "REAR SEAT-TO-FLOOR HEIGHTS"

Wheel size	**Height available ± ¼"** (0.6 cm)
20" wheel	12 ½" (31.7 cm) to 17" (43.1 cm)
22" wheel	13 ½" (34.2 cm) to 18" (45.7 cm)
24" wheel	14 ½" (36.8 cm) to 19" (48.2 cm)
25" wheel	15" (38.0 cm) to 19 ½" (49.5 cm)
26" wheel	15 ½" (39.3 cm) to 20" (50.8 cm)

16. DECLARATION OF CONFORMITY

Name and Address of Product Owner
Motion Composites
519 J-Oswald-Forest Suite 101, St-Roch-de-l'Achigan
Quebec, Canada, J0K 3H0
Phone: 1-866-650-6555
Fax: (450) 588-0200
support@motioncomposites.com
www.motioncomposites.com

Authorized representative
Advena Ltd.
Pure Offices, Plato Close, Warwick
CV34 6WE, United Kingdoms

We hereby declare that the below mentioned devices have been classified according to the classification rules and conform to the Essential Principles of Safety and Performance as laid out in the Health Products (Medical Devices) Regulations 93/42/CEE.

Medical Device(s):
Helio A7 manual wheelchair

Manufacturing site:
Motion Composites
519 J-Oswald-Forest Suite 101, St-Roch-de-l'Achigan
Quebec, Canada, J0K 3H0

Risk classification:
Class 1 Medical Device (per 93/42/CEE).

Standards applied:
- **NF EN ISO 7176-1:**
  Wheelchairs, part 1: Determination of static ability.
- **NF EN ISO 7176-5:**
  Wheelchairs, part 5: Determination of dimensions, mass and manoeuvring space.
- **NF EN ISO 7176-8:**
  Wheelchairs, part 8: Requirements and test methods for static, impact and fatigue strengths.
- **NF EN ISO 7176-11:**
  Wheelchairs, part 11: Test Dummies.
- **NF EN ISO 7176-15:**
  Wheelchairs, part 15: Requirements for information disclosure, documentation and labeling.

This declaration of conformity is valid from 2013/01/16.

Conversion chart

Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric
1/4"	0.6 cm	1"	2.5 cm	10"	25.4 cm	19"	48.3 cm
1/2"	1.3 cm	2"	5.0 cm	11"	28.0 cm	20"	50.8 cm
3/4"	2.0 cm	3"	7.6 cm	12"	30.5 cm	21"	53.3 cm
		4"	10.2 cm	13"	33.0 cm	22"	55.9 cm
		5"	12.7 cm	14"	35.6 cm	23"	58.4 cm
		6"	15.2 cm	15"	38.1 cm	24"	61.0 cm
		7"	17.8 cm	16"	40.6 cm	25"	63.5 cm
		8"	20.3 cm	17"	43.2 cm	26"	66.0 cm
		9"	22.9 cm	18"	45.7 cm		

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